IN THE CLAIMS:

1. (CURRENTLY AMENDED) In a data network comprising a plurality of nodes, a method for transferring data packets between a source node and a destination node contained in the network, wherein the source node and destination node belong to the same particular virtual-local-area network (VLAN), the method comprising the steps of:

establishing a virtual port associated with the destination node, the virtual port supporting a plurality of connections that are each associated with a different VLAN, a particular connection associated with the particular VLAN;

maintaining a single control structure for the virtual port, the single control structure storing information associated with each connection of the plurality of connections;

acquiring a data packet from the source node, wherein the packet is associated with the particular VLAN and contains a destination address associated with the destination node; and

transferring the packet to the destination node over the particular connection via the virtual port.

2. (PREVIOUSLY PRESENTED) The method as defined in claim 1 comprising the step of:

applying a port identifier (ID) associated with the virtual port to an interface descriptor block (IDB) database to identify an IDB database entry associated with the virtual port.

3. (CURRENTLY AMENDED) The method as defined in claim 2 wherein the identified IDB database entry contains a VLAN ID that represents the particular VLAN associated with the packet.

4. (CURRENTLY AMENDED) The method as defined in claim 1 wherein the packet contains a VLAN ID that represents the particular VLAN associated with the packet.

5. (CURRENTLY AMENDED) The method as defined in claim 1 comprising the steps of:

applying the destination address contained in the packet and a VLAN ID that identifies the particular VLAN associated with the packet to a forwarding database to locate a forwarding database entry that contains (i) a destination address that matches the destination address contained in the packet and (ii) a VLAN ID that matches the VLAN ID that identifies the particular VLAN associated with the packet; and

identifying a virtual port associated with the destination node using a port identifier contained in the matching forwarding database entry.

6. (CURRENTLY AMENDED) The method as defined in claim 1 comprising the steps of:

applying a port identifier (ID) associated with the virtual port to an interface descriptor block (IDB) database to identify an IDB database entry associated with the virtual port;

locating a virtual port (VPORT) VLAN database using an address contained in the IDB database entry;

applying a VLAN ID that identifies the particular VLAN associated with the packet to the VPORT VLAN database to locate a VPORT VLAN database entry that contains a VLAN ID that matches the VLAN ID that identifies the particular VLAN associated with the packet;

encapsulating the packet; and

transferring the encapsulated packet over a particular connection identified by a connection ID contained in the matching VPORT VLAN database entry.

7. (PREVIOUSLY PRESENTED) The method as defined in claim 6 wherein the packet is encapsulated in accordance with the Institute of Electrical and Electronics Engineers (IEEE) 802.1Q standard.

8. (PREVIOUSLY PRESENTED) The method as defined in claim 6 comprising the steps of:

acquiring the encapsulated packet;

decapsulating the acquired encapsulated packet to yield the original packet;

applying the destination address contained in the original packet to an address translation database to determine if the destination address matches an internal address contained in an entry in the database; and

if so, replacing the destination address in the original packet with an external address contained in the matching entry.

9. (PREVIOUSLY PRESENTED) The method as defined in claim 1 wherein the particular connection is a point-to-point protocol (PPP) connection.

10. (PREVIOUSLY PRESENTED) The method as defined in claim 1 wherein the particular connection is an Asynchronous Transfer Mode (ATM) virtual connection (VC).

11. (PREVIOUSLY PRESENTED) The method as defined in claim 1 wherein the particular connection is a frame relay connection.

12. (PREVIOUSLY PRESENTED) The method as defined in claim 1 wherein the particular connection is a trunked connection.

13. (PREVIOUSLY PRESENTED) The method as defined in claim 1 wherein the particular connection is associated with a connection identifier (ID).

14. (PREVIOUSLY PRESENTED) The method as defined in claim 13 comprising the step of:

identifying an entry in a VLAN ID database that contains a virtual connection (VC) ID that matches the connection ID.

15. (PREVIOUSLY PRESENTED) The method as defined in claim 13 comprising the steps of:

acquiring an encapsulated packet on the particular connection;

identifying an internal VLAN ID associated with the particular connection's ID; and

doubly encapsulating the encapsulated packet wherein the doubly encapsulated packet contains the internal VLAN ID.

16. (PREVIOUSLY PRESENTED) The method as defined in claim 15 wherein the doubly encapsulated packet is encapsulated in accordance with the Institute of Electrical and Electronics Engineers (IEEE) 802.1Q standard.

17. (PREVIOUSLY PRESENTED) The method as defined in claim 15 comprising the steps of:

applying a destination address contained in the doubly encapsulated packet to an address translation database to determine if the destination address matches an external address contained in an entry in the address translation database; and

if so, replacing the destination address contained in the doubly encapsulated packet with an internal address contained in the matching entry.

18. (CURRENTLY AMENDED) In a data network comprising a plurality of nodes, a method for transferring data packets between a source node and a destination node contained in the network, wherein the source node and destination node belong to the same virtual-local-area network (VLAN), the method comprising the steps of:

generating a data packet at the source node, wherein the data packet contains a destination address associated with the destination node;

transferring the packet to a source intermediate node contained in the network;

at the source intermediate node, (i) acquiring the packet, (ii) identifying a particular VLAN associated with the packet, (iii) identifying a virtual port through which the destination node may be reached, the virtual port supporting a plurality of connections that are each associated with a different VLAN, (iv) maintaining a single control structure for the virtual port, the single control structure storing information associated with each connection of the plurality of connections, (~~i~~v) identifying a particular connection that is associated with the virtual port and the packet's particular VLAN, and (v~~i~~i) transferring the packet over the particular connection via the virtual port to a destination intermediate node contained in the network; and

at the destination intermediate node, (i) acquiring the packet, (ii) identifying a port through which the destination node may be reached and (iii) forwarding the acquired packet to the destination node.

19. (PREVIOUSLY PRESENTED) A method as defined in claim 18 comprising the step of:

at the source intermediate node, encapsulating the packet.

20. (PREVIOUSLY PRESENTED) The method as defined in claim 19 wherein the packet is encapsulated in accordance with the Institute of Electrical and Electronics Engineers (IEEE) 802.1Q standard.

21. (PREVIOUSLY PRESENTED) The method as defined in claim 18 wherein the particular connection is a point-to-point protocol (PPP) connection.

22. (PREVIOUSLY PRESENTED) The method as defined in claim 18 wherein the particular connection is an Asynchronous Transfer Mode (ATM) virtual connection (VC).

23. (PREVIOUSLY PRESENTED) The method as defined in claim 18 wherein the particular connection is a frame relay connection.

24. (PREVIOUSLY PRESENTED) The method as defined in claim 18 wherein the particular connection is a trunked connection.

25. (CURRENTLY AMENDED) An intermediate node comprising:

a line card coupled to a network wherein the line card is configured to acquire data packets containing destination addresses; and

a processor configured to (i) establish one or more virtual ports wherein each virtual port is associated with a plurality of connections and each connection is associated with a virtual-local-area network (VLAN), (ii) associate an acquired packet with a particular VLAN, (iii) maintaining a single control structure for the virtual port, the single control structure storing information associated with each connection of the plurality of connections, (iv~~ii~~) identify a virtual port associated with a destination address contained in the acquired packet, (~~i~~v) identify a particular connection associated with the VLAN and (vi) transfer the packet over the particular connection via the virtual port.

26. (PREVIOUSLY PRESENTED) The intermediate node as defined in claim 25 wherein the connections are a combination of connection types.

27. (CURRENTLY AMENDED) An apparatus for transferring data packets between a source node and a destination node contained in a data network, wherein the source node and destination node belong to the same particular virtual-local-area network (VLAN), the apparatus comprising:

means for establishing a virtual port associated with the destination node, the virtual port supporting a plurality of connections that are each associated with a different VLAN, a particular connection associated with the particular VLAN;

means for maintaining a single control structure for the virtual port, the single control structure storing information associated with each connection of the plurality of connections;

means for acquiring a data packet from the source node, wherein the packet is associated with the particular VLAN and contains a destination address associated with the destination node; and

means for transferring the packet to the destination node over the particular connection via the virtual port.

28. (CURRENTLY AMENDED) A computer readable medium comprising computer executable instructions for execution in a processor, the medium comprising instructions for:

establishing a virtual port that is associated with a destination node, contained in a data network, the virtual port supporting a plurality of connections that are each associated with a different VLAN, a particular connection associated with a particular virtual-local-area network (VLAN);

maintaining a single control structure for the virtual port, the single control structure storing information associated with each connection of the plurality of connections;

acquiring a data packet wherein the packet is associated with the particular VLAN and contains a destination address associated with the destination node; and

transferring the packet to the destination node over the connection via the virtual port.